Crestron TPMC-4SMD
4.3” Designer Touch Screen
Operations & Installation Guide

CRESTRON®

Regulatory Compliance

As of the date of manufacture, the TPMC-4SMD has been tested and found to comply with specifications for CE marking.

CE

Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:
(1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

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The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed at patents.crestron.com.

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4.3” Designer Touch Screen: TPMC-4SMD

Introduction

With its clean, contoured appearance, the TPMC-4SMD Designer Touch Screen from Crestron® makes an elegant statement in any environment. Perfectly at home in the most contemporary residence or modern office building, its high tech good looks underline its power for simplifying everyday tasks and functions throughout any facility, all in a very affordable device that is versatile and easy to install.

An incredibly thin profile and small footprint allow the TPMC-4SMD to be installed in places other touch screens just cannot go, providing the choice of mounting to a standard electrical box or to virtually any flat surface, even glass, granite or marble. A table top enclosure is also available, affording a very stylish, space saving solution for placement on a desktop or bedside table. Complete connectivity is provided through a single high-speed Ethernet connection, containing all control, video, intercom and power signals within a single wire.

The TPMC-4SMD provides a customizable touch screen controller featuring Smart Graphics™, H.264 streaming video, audio feedback and 2-way IP intercom, cohesively merged into one seamless user interface. Additional features include white LED backlit buttons, a built-in proximity sensor, PoE (Power over Ethernet) network power and occupancy sensor inputs.

Features and Functions

- Modern, contoured appearance
- Thin profile and small footprint
- Affordable and easy to install
- 4.3” (~109 mm) widescreen active matrix color touch screen
- 800 x 480 WVGA display resolution
- Smart Graphics support
- High performance H.264 streaming video
- Crestron IP intercom
- Customizable audio feedback
- Built-in microphone and speaker
- Built-in proximity sensor

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Features and Functions

(Continued)

- 10 optional "hard key" push buttons
- White LED button backlighting and feedback
- Custom engravable button text
- Room occupancy sensor option*
- Single wire Ethernet connectivity
- PoE network powered
- Versatile wall, surface and tabletop mounting options
- Available with black or white smooth finish

Advanced Touch Screen Control

A Crestron touch screen offers an ideal user interface for controlling all the technology in a home, boardroom, classroom, courtroom or command center. Touch screens do away with piles of remote controls, cluttered wall switches and cryptic computer screens, simplifying and enhancing the technology. Crestron touch screens are fully customizable for controlling audio, video, lighting, shades, HVAC, security and other systems, with easy to use controls and icons, true feedback and real time status display, live streaming video and advanced navigation of digital media servers, tuners and other devices.

Smart Graphics

Crestron touch screens use Smart Graphics to deliver the ultimate user experience and the ultimate value, by enabling the creation of dynamically rich user interfaces with incredible efficiency and unparalleled functionality. Using Smart Graphics, programmers can swiftly integrate fluid gesture-driven controls, animated feedback, metadata, embedded apps and full-motion video for a deeply engaging and ultra-intuitive touch screen experience.

Crestron Smart Graphics include the following enhancements:

- Cool looking graphical buttons, sliders, knobs and gauges are intuitive and fun to use.
- Kinetic effects enhance the feeling of realism with lists and toolbars that scroll with momentum at the flick of a fingertip.
- Drag and drop objects snap into place offering an easy way to switch sources.
- Dashboard widgets personalize the touch screen with clocks, weather, news and other information.
- Customizable themes allow a completely different look and feel for every user, event or season.
- Fully developed SmartObjects™ enable sophisticated control over complex devices with minimal programming. SmartObjects are powerful Crestron-designed or custom-designed objects created in VT Pro-e® using Smart Graphics technology. Each SmartObject™ allows programmers to easily add controls, user presets, and metadata interfaces for everything from simple keypads to complex media devices and environmental systems.

* Item(s) sold separately.

- Smart Graphics also includes the Smart Sizing™ feature, which allows the same user interface to be viewed on different size screens.

White Backlit Buttons

The TPMC-4SMD comes standard with 10 programmable "hard key" push buttons for quick access to commonly used functions. Each button features a translucent button cap with white LED backlighting. The backlighting is fully dimmable, either globally or separately for the left and right side. Alternately, each button LED can be programmed (via SIMPL Windows) to provide discrete feedback, affording clear indication of the status of each individual button.

The TPMC-4SMD comes standard with its buttons pre-labeled for typical room control functions. Customized labeling can be attained using Crestron Engraver software. For a clean appearance, either column of buttons may be removed and covered using the no-button covers provided.

Proximity Sensor

The TPMC-4SMD senses as the user approaches it, waking its display automatically without having to touch the screen so it is always ready for use.

Streaming Video

High performance streaming video capability makes it possible to view security cameras and other video sources over the network right on the touch screen. Native support for H.264 and MJPEG formats allows the TPMC-4SMD to display live video images from IP cameras and servers such as the Crestron CEN-NVS200 Network Video Streamer (sold separately).

IP Intercom

Built-in IP intercom capability facilitates direct touch screen to touch screen intercom and monitoring right over the LAN without requiring any additional AV wiring. The TPMC-4SMD features an integrated microphone and speaker for clear speech communication.

Audio Feedback

Customized audio files can be loaded on the TPMC-4SMD to add another dimension to its touch screen graphics using personalized sounds, button feedback and voice prompts.

Single Wire Connectivity

A simple Ethernet LAN connection is all that is required to wire the TPMC-4SMD, containing all control, video, intercom and power signals in a single wire.

Power over Ethernet

Using PoE technology, the TPMC-4SMD gets its operating power right through the LAN wiring. PoE eliminates the need for a local power supply or any dedicated power wiring. A PoE Injector (PWE-4803RU, sold separately) simply connects inline with the LAN cable, allowing for installation at any convenient location. Crestron PoE switches (CEN-SW-POE-5, CEN-SWPOE-16 or CEN-SWPOE-24, all sold separately) may also be used to provide a total networking solution with built-in PoE.

Occupancy Sensing

Crestron GLS series room occupancy sensors can be connected directly to the TPMC-4SMD to allow automation of the room’s lighting, climate control and other devices.

Simple, Versatile Mounting

The TPMC-4SMD installs easily on virtually any mounting surface. As standard, it mounts directly to a single-gang electrical box (horizontally oriented) or European electrical box, requiring just 1/2 inch (13 mm) mounting depth while protruding less than 3/4 inch (19 mm) from the wall surface. It can also be adapted for mounting to a vertically oriented 1-gang or 2-gang electrical box or a 2-gang UK electrical box, using the optional WMKU-4SM Universal Mounting Kit[1], which can also be used without an electrical box for a low-profile surface mount solution. [2]

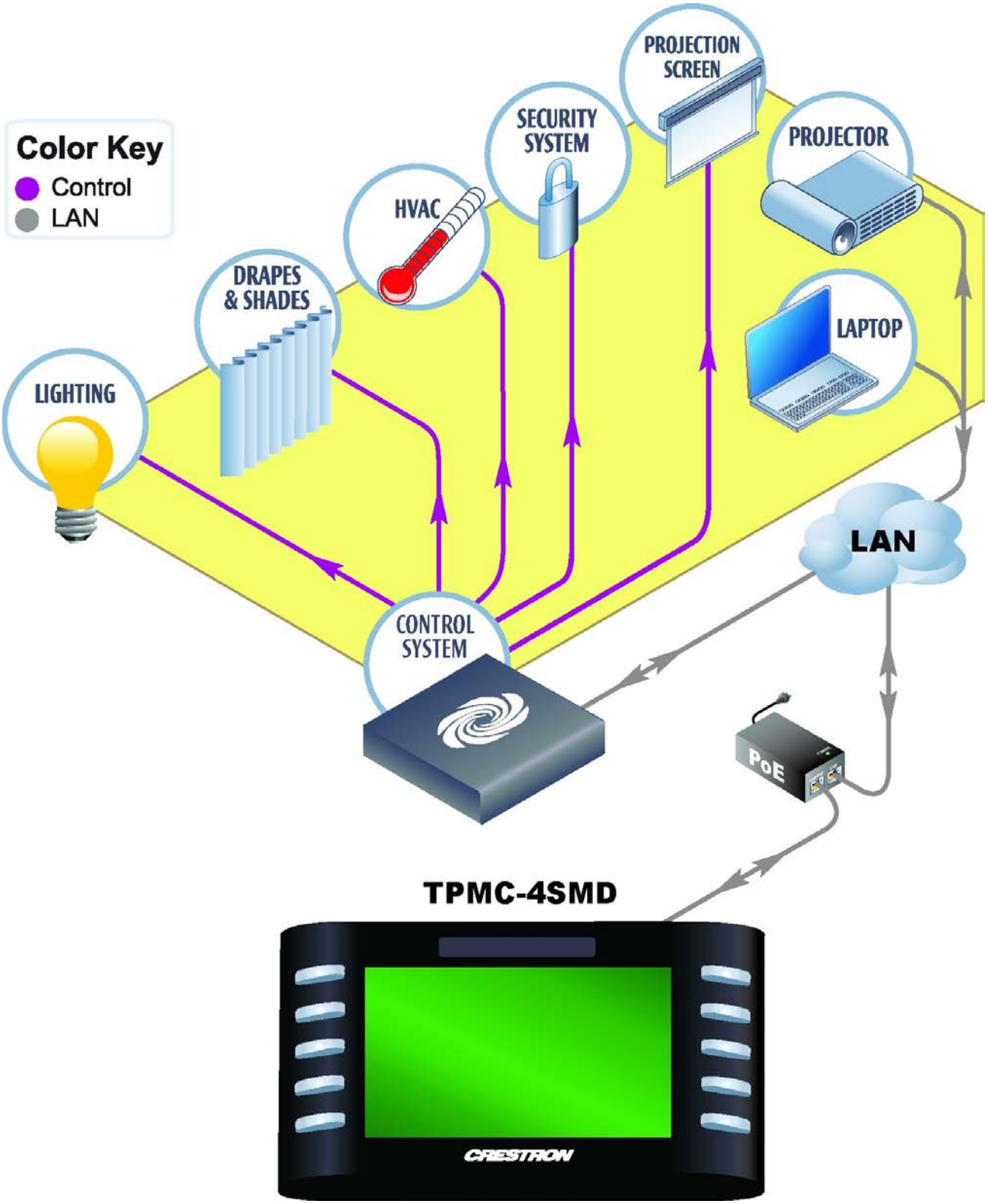
For impenetrable surfaces, such as decorative glass, granite, marble, plaster, smooth stone and masonry, Crestron offers the MSMK-4SM Multi-Surface Mount Kit[1], which provides a very versatile mounting solution complete with a low profile rear shell enclosure, adhesive mounting plate, optional angle bracket and wire raceway. The TTK-4SM Table Top Kit[1] converts the TPMC-4SMD into a stylish, compact tabletop touch screen, perfect for free standing use or permanently mounted on a tabletop or counter surface.

1. Item(s) sold separately.
2. WMKU-4SM mounting option requires a minimum surface cut out or electrical box opening of 1/7” (~43 mm) high and 2.0” (~51 mm) wide.

Applications

The following diagram shows a TPMC-4SMD in a typical application.

TPMC-4SMD in a Typical Application



Specifications

Specifications for the TPMC-4SMD are listed in the following table.

TPMC-4SMD Specifications

SPECIFICATION	DETAILS
Touch Screen Display	
Display Type	TFT active matrix color LCD
Size	4.3 inch (109 mm) diagonal
Aspect Ratio	16:9 WVGA
Resolution	800 x 480 pixels
Brightness	270 nits
Contrast	300:1
Color Depth	16-bit, 64k colors
Illumination	Backlit LED
Viewing Angle	±80º horizontal, ±80º vertical
Touch Screen	Resistive membrane
Proximity Sensor[1]	
Type	Active infrared beam and receiver
Range	3-4 feet (0.9-1.2 meters)
Memory	
SDRAM	256 MB
Flash	2 GB
Maximum Project Size	60 MB
Graphics Engine	Supports Smart Graphics or "traditional" GUI projects
Communications	
Ethernet	10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP, IEEE 802.3af and 802.3at compliant
Video	
Streaming Formats	H.264 (MPEG-4 part 10 AVC), MJPEG
Audio	
Features	Built-in microphone and speaker, Crestron IP Intercom
Amplification	Mono, 0.5 watts
Audio Feedback Formats	MP3 using Smart Graphics, WAV using "traditional" graphics
Power Requirements	
Power over Ethernet	IEEE 802.3af (802.3at Type 1) Class 3 PoE powered device
Default IP ID[2]	03
Environmental	
Temperature	32º to 104º F (0º to 40º C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	14 Btu/h

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TPMC-4SMD Specifications (Continued)

SPECIFICATION	DETAILS
Enclosure	
Construction	Plastic, black or white, smooth finish
Front Bezel	Plastic, hard buttons installed with pre-labeled button covers, custom engraving sold separately, no-button covers also included
Mounting	Requires a horizontally oriented 1-gang electrical box or plaster ring or a 1-gang European (DIN 49073) electrical box; choice of standard or security screws provided; optional universal wall, multi-surface and table top mounting kits sold separately
Dimensions	
Height	3.47 in (89 mm)
Width	6.20 in (158 mm)
Depth	1.21 in (31 mm)
Weight	9 oz (249 g)
Available Models	
TPMC-4SMD-B-S	4.3" Designer Touch Screen, Black Smooth
TPMC-4SMD-W-S	4.3" Designer Touch Screen, White Smooth
Available Accessories	
4SM-BTNO-[B, W]-S	Engravable Button Covers, set of two (specify color)
CEN-NVS200	Network Video Streamer
CEN-SW-POE-5	5-Port PoE Switch
CEN-SWPOE-16	16-Port Managed PoE Switch
CEN-SWPOE-24	24-Port Managed PoE Switch
GLS Series	Green Light Occupancy Sensors
MSMK-4SM-[B W]-S	Multi-Surface Mount Kit (specify color)
PWE-4803RU	PoE Injector
SMK-4SM/730	Swivel Mount Kit for TTK-4SM & TSW-730-TTK
TTK-4SM-[B, W]-S	Table Top Kit (specify color)
WMKU-4SM-[B,W]-S	Universal Wall Mount Kit (specify color)
VMK-WIN	TouchPoint® Virtual Mouse & Keyboard Software for Windows®

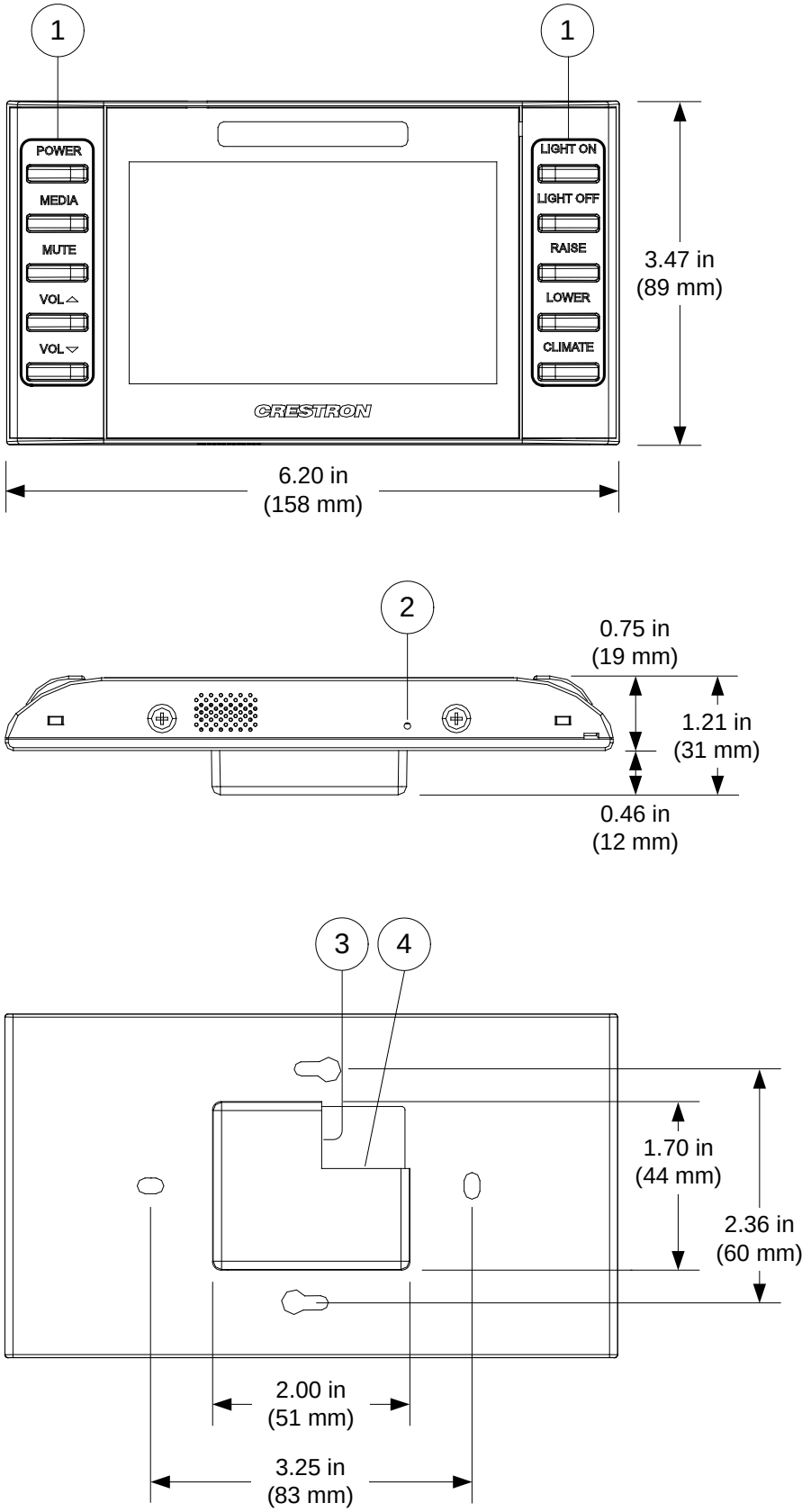
1. Wakes the touch screen and backlight.
2. Refer to "Identity Code" on page 11 for details.

Physical Description

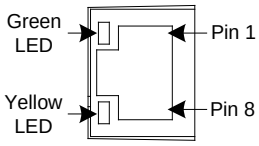
This section provides information on the connections, controls and indicators available on the TPMC-4SMD.

TPMC-4SMD Physical View

TPMC-4SMD Overall Dimensions (Front, Bottom and Rear Views)



Connectors, Controls & Indicators

<table>
<tr><th>#</th><th>CONNECTORS, CONTROLS & INDICATORS</th><th>DESCRIPTION</th></tr>
<tr><td>1</td><td>Hard Keys with Feedback/ Backlight</td><td>(10) Optional programmable push buttons, translucent backlit with (1) white LED per hard key, programmable for feedback and backlighting</td></tr>
<tr><td>2</td><td>Reset</td><td>(1) Recessed push button behind pinhole for hardware reset (press and hold for four seconds)</td></tr>
<tr><td>3</td><td>LAN PoE*
 
</td><td>(1) 8-wire RJ-45 with two LED indicators; 10BASE-T/100BASE-TX Ethernet port, Power over Ethernet compliant; Green and yellow LEDs indicate Ethernet port status
<table>
<tr><th>PIN</th><th>SIGNAL</th><th>PIN</th><th>SIGNAL</th></tr>
<tr><td>1</td><td>TX +</td><td>5</td><td>N/C</td></tr>
<tr><td>2</td><td>TX -</td><td>6</td><td>RX -</td></tr>
<tr><td>3</td><td>RX +</td><td>7</td><td>N/C</td></tr>
<tr><td>4</td><td>N/C</td><td>8</td><td>N/C</td></tr>
</table></td></tr>
<tr><td>4</td><td>Occupancy Sensor Input</td><td>(4) Captive screw terminals comprising (2) voltage sensing inputs (referenced to ground) with 24 dc power output; Input voltage range: 0-30 Vdc; Sensing threshold: ≥ 4.5 Vdc active, ≤ 1 Vdc inactive; Maximum dc load: 4 watts @ 24 Vdc, provides operating power for up to (4) Crestron GLS Series occupancy sensors</td></tr>
</table>

* The pin out table indicates signal connections. dc power applied by Ethernet power sourcing equipment (PSE) can connect to either signal pins or N/C pins.

Setup

Network Wiring

When wiring the Ethernet network, consider the following:

- Use Crestron Certified Wire.
- Use Crestron power supplies for Crestron equipment.
- Provide sufficient power to the system.

CAUTION: Insufficient power can lead to unpredictable results or damage to the equipment. Please use the Crestron Power Calculator to help calculate how much power is needed for the system (www.crestron.com/calculators).

Unlike other Crestron network devices, the TPMC-4SMD does not use Cresnet® for communications between the device and the control system. The TPMC-4SMD requires the use of a high-speed Ethernet connection for control system communications.

For general information on connecting Ethernet devices in a Crestron system, refer to the Crestron e-Control® Reference Guide (Doc. 6052) at www.crestron.com/manuals.

Identity Code

NOTE: The latest software can be downloaded from the Crestron Web site (www.crestron.com/software).

The IP ID is set within the TPMC-4SMD's IP table using Crestron Toolbox™. For information on setting an IP table, refer to the Crestron Toolbox help file. The IP IDs of multiple TPMC-4SMD devices in the same system must be unique.

When setting the IP ID, consider the following:

- The IP ID of each unit must match an IP ID specified in the Crestron Studio™ or SIMPL Windows program.
- Each device using IP to communicate with a control system must have a unique IP ID.

Configuring the Touch Screen

NOTE: The only connection required to configure the touch screen is power. Refer to "Hardware Hookup" on page 27 for details.

NOTE: The TPMC-4SMD can take up to 45 seconds to boot to a display after initial power up.

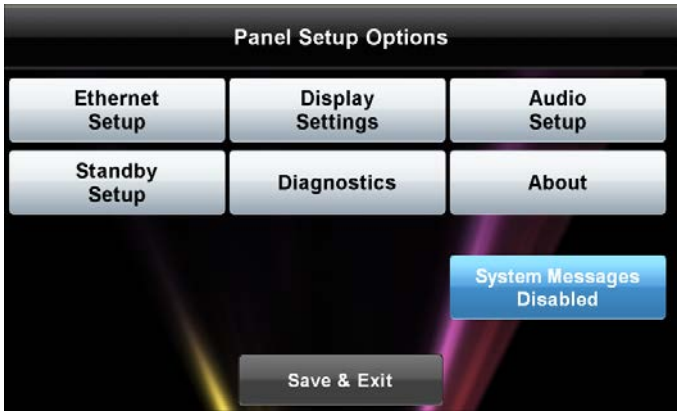
The setup screens allow basic configuration procedures prior to regular operation of the touch screen. To enter the setup screens, touch the panel while applying power to the unit. The setup screens can also be entered by pressing the top four push buttons

on the left side of the panel twice in sequence (1, 2, 3, 4, 1, 2, 3, 4). Refer to the following illustration for push button numbering.

Push Button Layout and Join Number Assignment

The "Panel Setup Options" menu opens. The functions provided by each button are detailed in subsequent paragraphs.

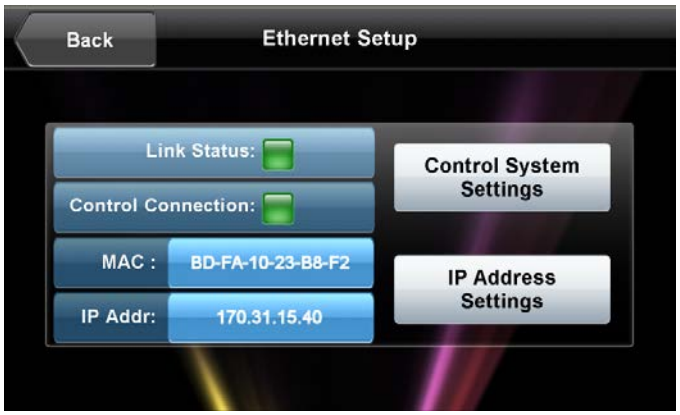
"Panel Setup Options" Menu



Ethernet Setup

Touch **Ethernet Setup** to display information about the *Link Status*, *Control Connection*, MAC and IP addresses and to access the **Control System Settings** and **IP Address Settings** buttons and their respective submenus. Touch **Back** to return to the "Panel Setup Options" menu.

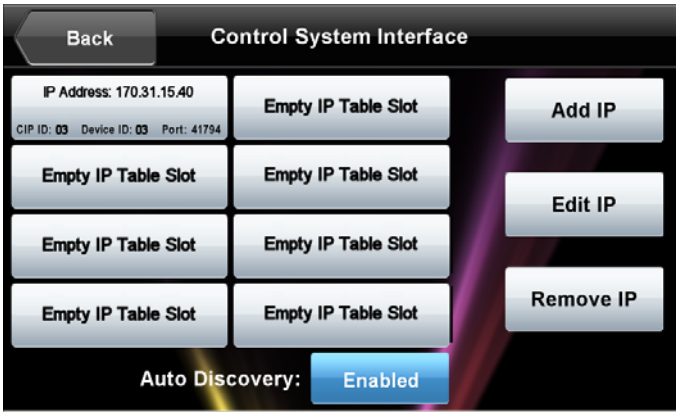
"Ethernet Setup" Menu



Touch **Control System Settings** to access the "Control System Interface" menu, shown in the illustration below.

The "Control System Interface" menu contains buttons for eight IP Table slots as well as **Add IP**, **Edit IP** and **Remove IP** buttons to facilitate editing entries. The *Auto Discover* button toggles between **Enabled** and **Disabled**.

"Control System Interface" Menu



To add an IP entry to a blank slot, first touch **Add IP**. The "Edit Control System Settings" screen is displayed, as shown in the illustration below.

"Edit Control System Settings" Screen

Touch the *IP Address / Hostname* button. The on-screen keyboard opens, as shown in the illustration below.

On-Screen Keyboard

Touch **CLEAR** to remove any previous entry. Then enter the address required. Touch **OK** to accept the entry or **CANCEL** to cancel the entry. This hides the on-screen keyboard and returns the display to the "Edit Control System Settings" screen.

On the "Edit Control System Settings" screen, touch **Save** to keep the change or **Cancel** to cancel the change and return to the "Control System Interface" menu.

To edit the port, *CIP ID* or *Device ID*, touch the appropriate button. Touching the *Port (41794)* button opens the numeric keypad. Touching the *CIP ID* or *Device ID* buttons opens a hex keypad, shown in the illustration that follows.

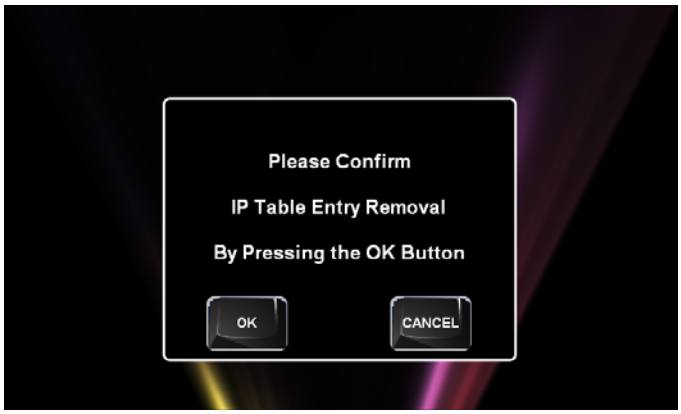
Hex Keypad

Touch **CLEAR** to remove any previous entry. Then enter the ID required. Touch **OK** to accept the entry or **CANCEL** to cancel the entry. This hides the hex keypad and returns the display to the "Edit Control System Settings" screen.

On the "Edit Control System Settings" screen, touch **Save** to keep the changes or **Cancel** to cancel the changes and return to the "Control System Interface" menu.

From the "Control System Interface" menu, to edit or remove an IP entry, first touch the appropriate button containing the entry. Then touch **Edit IP** or **Remove IP** as appropriate. Editing an entry displays the "Edit Control System Settings" screen (refer to the middle illustration on page 13). Removing an entry displays a message saying *Please Confirm IP Table Entry Removal By Pressing the OK Button*, as shown in the illustration below.

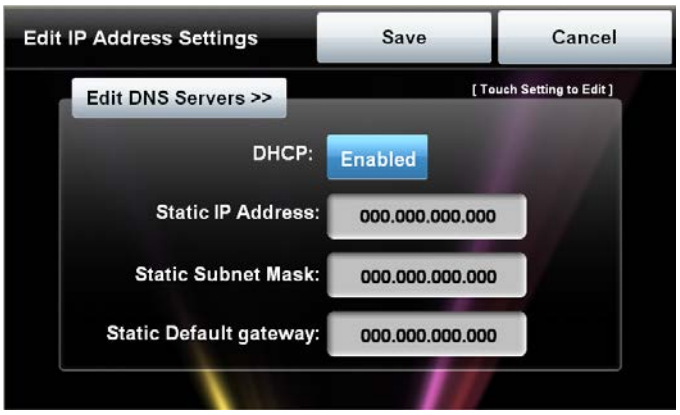
Confirm IP Table Entry Removal Screen



Touch **OK** to confirm the removal or touch **CANCEL** to cancel the removal. The display returns to the "Control System Interface" menu (refer to the illustration at the bottom of page 13). From the "Control System Interface" menu, touch **Back** to return to the "Ethernet Setup" menu.

On the TPMC-4SMD, DHCP is enabled by default. To switch to a static IP address, touch **IP Address Settings** on the "Ethernet Setup" menu, to access the "Edit IP Address Settings" screen. (Touch **Back** to return to the "Panel Setup Options" menu.)

"Edit IP Address Settings" Screen

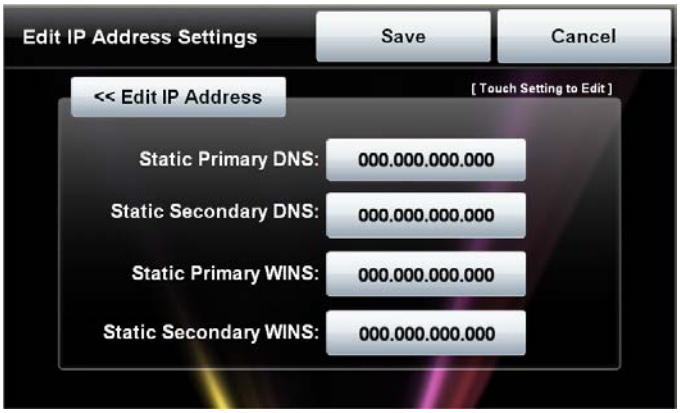


Touch the **Enabled/Disabled** button to toggle between DHCP enabled and disabled. Then touch the button for the *Static IP Address*, *Static Subnet Mask* or *Static Default gateway* desired. The on-screen keyboard opens. After entering the addresses, touch **OK** to add the entries or **CANCEL** to cancel them.

On the "Edit IP Address Settings" screen, touch **Edit DNS Servers** to enter the screen for editing these addresses, shown in the illustration below.

Touch **Save** to keep the new setting or **Cancel** to cancel it.

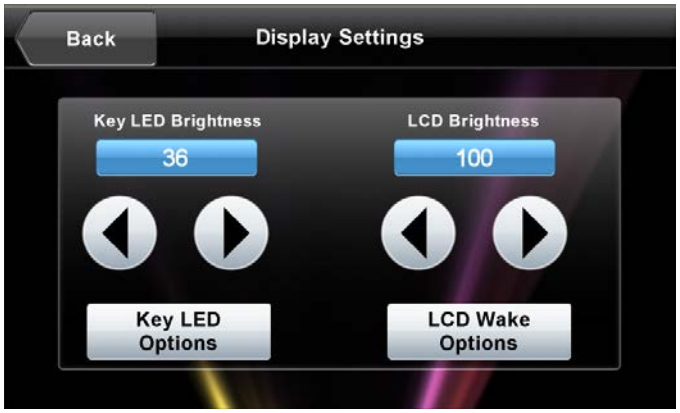
"Edit IP Address Settings" Screen (Showing DNS and WINS Servers)



Display Settings

On the "Panel Setup Options" menu, touch **Display Settings** to enter the "Display Settings" menu, shown in the illustration below.

"Display Settings" Menu



The "Display Settings" menu provides controls to adjust *Key LED Brightness* and *LCD Brightness* in addition to providing buttons to enter the **Key LED Options** and **LCD Wake Options** screens. Touch **Back** to return to the "Panel Setup Options" menu.

Touch **Key LED Options** to enter the "Key LED Options" screen, shown in the illustration below.

"Key LED Options" Screen

The "Key LED Options" screen provides controls for turning the *Key LEDs State when in Standby* function **ON** or **OFF**. Touch **Back** to return to the "Display Settings" menu.

From the "Display Settings" menu, touch **LCD Wake Options** to display the "LCD Wake Options" screen, shown in the illustration below.

"LCD Wake Options" Screen

The "LCD Wake Options" screen provides controls for turning the *Proximity Sensor Wakes LCD* and *Hard Key Wakes LCD* functions **ON** or **OFF**. Touch **Back** to return to the "Display Settings" menu. From the "Display Settings" menu, touch **Back** to return to the "Panel Setup Options" menu.

Audio Setup

On the "Panel Setup Options" menu, touch **Audio Setup** to display the "Audio Settings" screen, shown in the illustration below.

"Audio Settings" Screen

The "Audio Settings" screen provides controls for *Master Volume*, *KeyClick Volume*, *Wave Volume* and *Mute* controls for all three, as well as a **Play Test Wave** button. Touch **Back** to return to the "Panel Setup Options" menu.

Standby Setup

On the "Panel Setup Options" menu, touch **Standby Setup** to display the "Standby Timeouts" screen, shown in the illustration below.

"Standby Timeouts" Screen

The "Standby Timeouts" screen provides controls to adjust *Standby Timeout* from 0 to 120 minutes. Touch **Back** to return to the "Panel Setup Options" menu.

Diagnostics

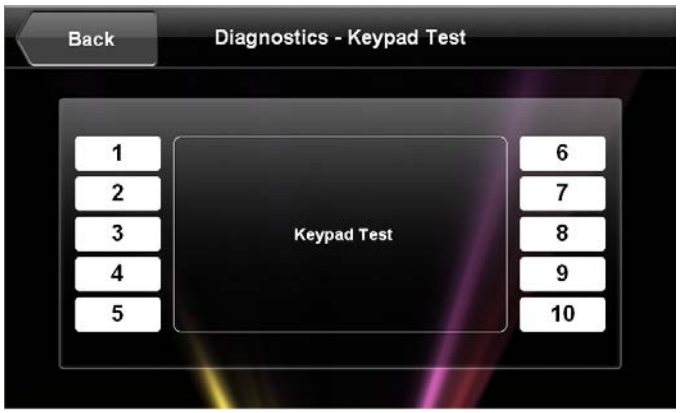
On the "Panel Setup Options" menu, touch **Diagnostics** to display the "Diagnostics" menu, shown in the illustration below.

"Diagnostics" Menu

The "Diagnostics" menu displays information about *Total RAM*, *Free RAM*, *Link Status*, *Control Connection*, MAC and IP addresses and provides **Keypad Test**, **Touch Test**, **Sensor Test**, **Calibrate Touch**, **Mic Test**, and **Test Patterns** buttons. Touch **Back** to return to the "Panel Setup Options" menu.

From the "Diagnostics" menu, touch **Keypad Test** to display the "Diagnostics – Keypad Test" screen. Use this screen to test the function of the hard key push buttons on either side of the screen. When a button is pressed, its corresponding button lights on the screen. Touch **Back** to return to the main "Diagnostics" menu.

"Diagnostics – Keypad Test" Screen



From the main "Diagnostics" menu, the **Touch Test** button displays the following screen, with a **Calibrate** button to initiate touch screen calibration. The **Calibrate Touch** button on the "Diagnostics" menu also initiates touch screen calibration.

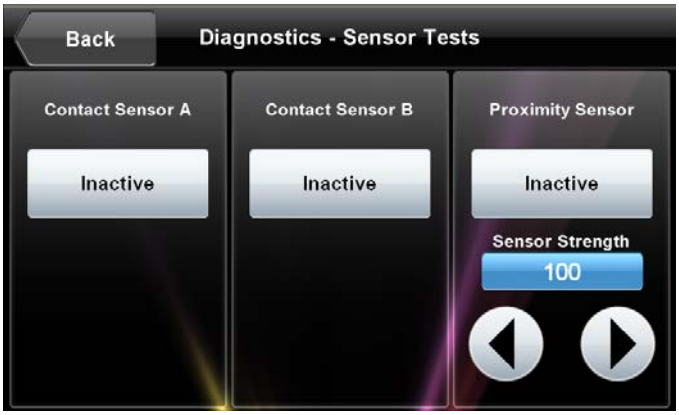
Touch Test Screen

During touch screen calibration, a crosshair appears at the center of the screen. Touch the center of the crosshair, which then moves to the upper left part of the screen. Touch the center of the crosshair and it moves to another part of the screen. Continue touching the center of the crosshair at each new location until calibration is complete.

NOTE: When touching the screen during calibration, be as accurate as possible. Use the tip of a capped pen or the eraser end of a pencil.

From the "Diagnostics" menu, touch **Sensor Test** to display the "Diagnostics – Sensor Tests" screen, shown in the illustration below.

"Diagnostics – Sensor Tests" Screen



If contact sensors are connected to the TPMC-4SMD, the respective indicator changes from *Inactive* to *Active* as appropriate for each sensor's activity. Similarly, the TPMC-4SMD's own proximity sensor's indicator changes from *Inactive* to *Active* when the TPMC-4SMD senses motion in front of the unit. Use the *Sensor Strength* controls to adjust proximity sensor sensitivity. Touch **Back** to return to the "Diagnostics" menu.

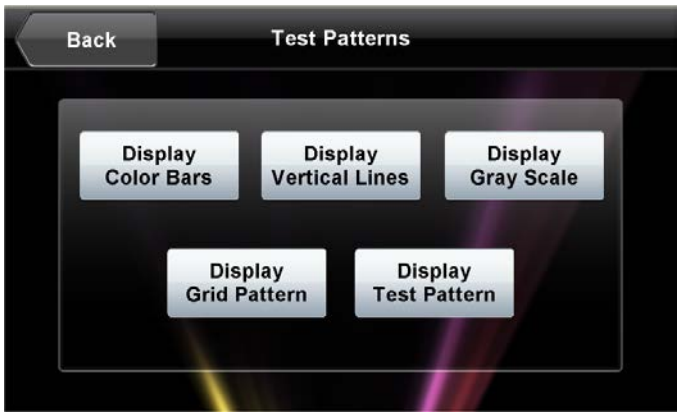
On "Diagnostics" menu, touch **Mic Test** to perform a test of the TPMC-4SMD's built-in microphone. The button label changes to **RECORDING/PLAYBACK** and the screen displays a *Mic test in progress* message, as shown in the illustration below.

Mic Test In Progress Screen

Speak into the microphone on the front of the TPMC-4SMD and the recording is played back to confirm the microphone is functioning. After playback, the button reverts to its original **Mic Test** label.

On the "Diagnostics" menu, the **Test Patterns** button to display the "Test Patterns" menu, shown in the illustration below.

"Test Patterns" Menu



The "Test Patterns" menu contains buttons for selecting the different available test patterns: **Display Color Bars**, **Display Vertical Lines**, **Display Gray Scale**, **Display Grid Pattern** and **Display Test Pattern**. Touch **Back** to return to the "Diagnostics" menu. From the "Diagnostics" menu, touch **Back** to return to the "Panel Setup Options" menu.

About

On the "Panel Setup Options" menu, the **About** button opens a small window displaying the *Firmware Version* and the *OS Image Version*. Touch **Back** to return the "Panel Setup Options" menu.

System Messages Enabled/Disabled

On the "Panel Setup Options" menu, the **System Messages Disabled** (the default setting) button toggles between this state and **System Message Enabled**, allowing system messages to be turned on or off.

Save & Exit

On the "Panel Setup Options" menu, touch **Save & Exi**t to save all settings, exit the setup screens and return to the main project.

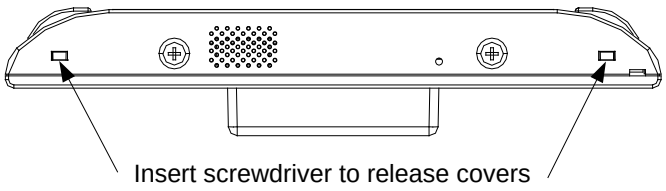
Changing the Button Inserts

The TPMC-4SMD ships with 10 “hard key” push buttons for quick access to commonly used functions. For a clean appearance, either column of buttons may be removed and covered using the no-button covers provided.

To change the inserts, use the following procedure:

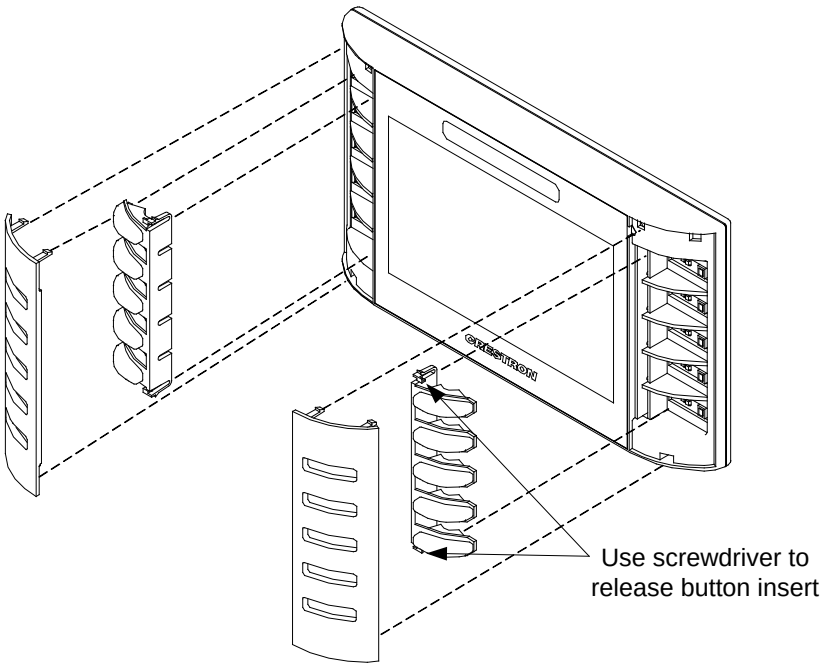
1. Insert a small, slot head screwdriver into the appropriate hole on the bottom of the TPMC-4SMD to release its cover. Refer to the following illustration.

Insertion Points for Button Cover Release



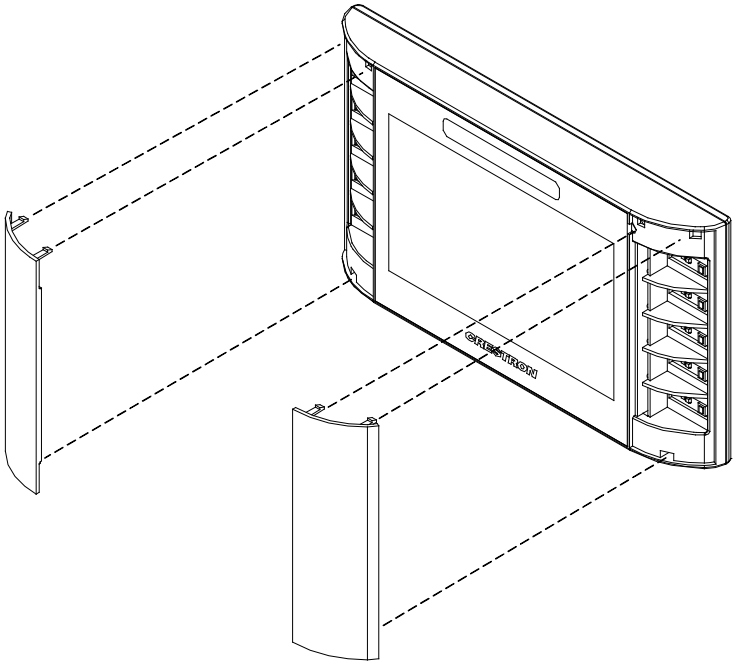
2. With the bottom of the cover released, gently remove it from the TPMC-4SMD.
3. If removing the button insert, after releasing and removing the button cover, use a small slot head screwdriver to press and gently lift the button insert from the TPMC-4SMD. Refer to the following illustration for the press and lift points on the button insert.

TPMC-4SMD with Button Inserts



4. Gently place the new cover in position and press it into place.

TPMC-4SMD with No-Button Covers



Installation

The TPMC-4SMD touch screen installs simply and cleanly into a standard electrical box or on to virtually any flat surface.

A table top enclosure, the TTK-4SM and swivel mount, SMK-4SM are also available (both sold separately). For mounting onto a flat surface, use the MSMK-4SM Multi-Surface Mounting Kit (sold separately).

The TPMC-4SMD is supplied with screws for installation into an electrical box.

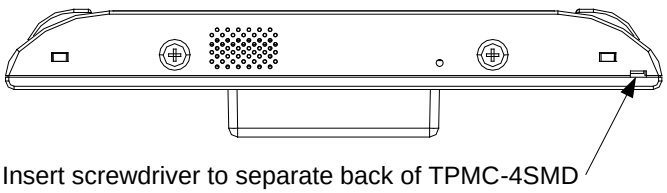
Mounting in a US Electrical Box

NOTE: When mounting the TPMC-4SMD into an electrical box, the box must be installed horizontally.

To mount the TPMC-4SMD into an electrical box, use the following procedure:

1. Insert a small slot head screwdriver into the hole shown in the following illustration and gently separate the back of the TPMC-4SMD.

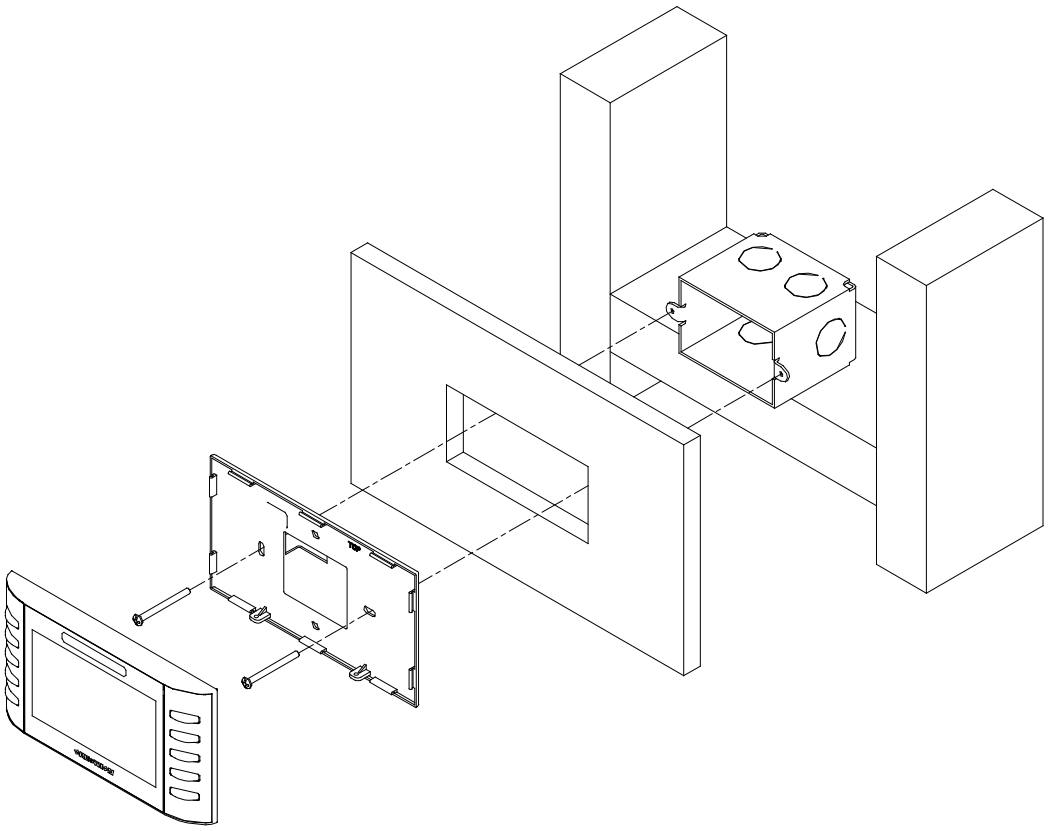
Insertion Point for Separation of Back Panel



2. Use the two included #06-32 x 1 1/2" screws (2007254) to attach the back panel to a horizontally mounted electrical box, as shown in the following illustration.

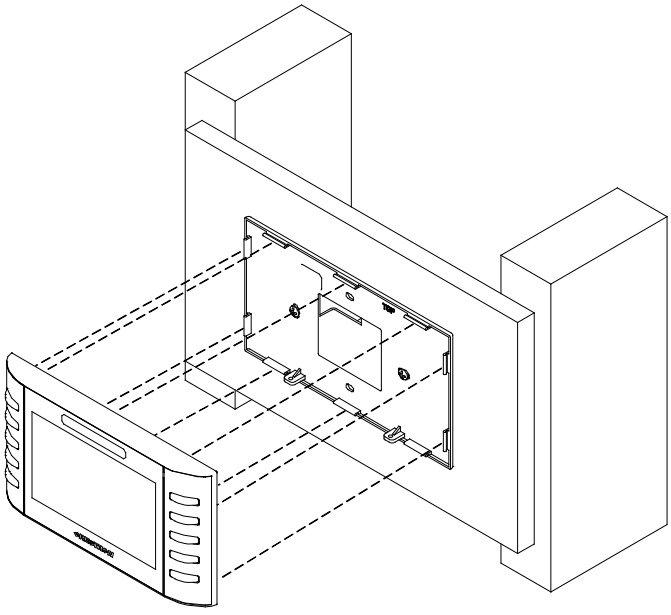
NOTE: Use the left and right screw holes for attachment to the electrical box.

Mounting the TPMC-4SMD into an Electrical Box



3. Carefully position the front of the TPMC-4SMD over the back panel and gently snap it into place, as shown in the following illustration.

Snap the TPMC-4SMD into Place



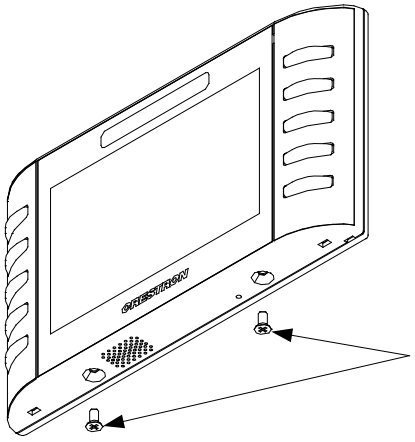
4. Use two of the included #04-40 x 1/4" screws to secure the TPMC-4SMD, as shown in the following illustration:

   a. For standard applications, use the Phillips screws (2007152 or 2007160).

   b. For secure applications, use the security type Torx screws (2025311 or 2025312) along with the included Torx screwdriver bit (2025915).

NOTE: Parts 2007152 and 2025311 come with black models. Parts 2007160 and 2025312 come with white models.

Secure TPMC-4SMD



Screws (2) #04-40 x 1/4"

For standard applications: Phillips (2007152 or 2007160)

For secure applications: security type Torx (2025311 or 2025312)

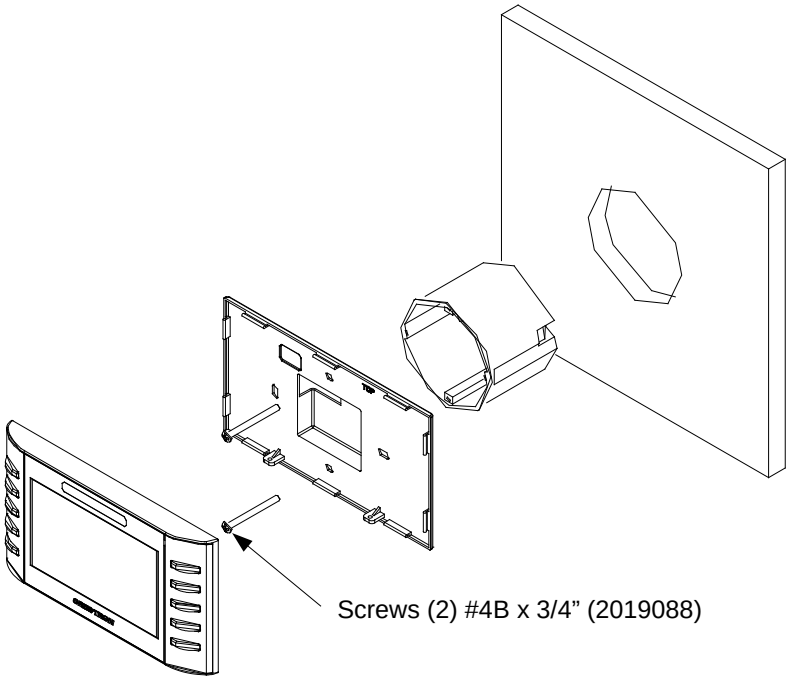
Mounting in a European Electrical Box

To mount the TPMC-4SMD into a European electrical box, use the following procedure:

1. Insert a small slot head screwdriver into the hole shown in the illustration at the top of page 21 and gently separate the back of the TPMC-4SMD.
2. Use the two included #4B x 3/4" screws (2019088) to attach the back panel to the electrical box, as shown in the following illustration.

NOTE: For European electrical boxes, use the top and bottom screw holes for attachment to the electrical box.

Mounting the TPMC-4SMD into a European Electrical Box



3. Carefully position the front of the TPMC-4SMD over the back panel and gently snap it into place, as shown in the illustration at the bottom of page 22.
4. Use either the two included #04-40 x 1/4" Phillips screws (2007152 or 2007160) or the two included #04-40 x 1/4" security type Torx screws (2025311 or 2025312) along with the included Torx screwdriver bit (2025915) to secure the TPMC-4SMD, as shown in the illustration on page 23.

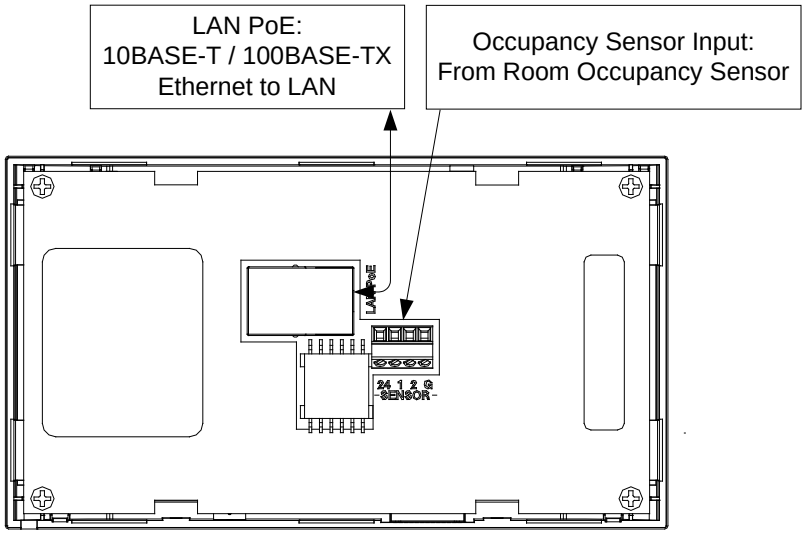
NOTE: Parts 2007152 and 2025311 come with black models.
Parts 2007160 and 2025312 come with black models.

Hardware Hookup

Make the necessary connections as called out in the illustration that follows this paragraph. Apply power after all connections have been made.

When making connections to the TPMC-4SMD, use Crestron power supplies for Crestron equipment.

Hardware Connections for the TPMC-4SMD



NOTE: To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.

Recommended Cleaning

Keep the surface of the touch screen free of dirt, dust or other materials that could degrade optical properties. Long-term contact with abrasive materials can scratch the surface, which may detrimentally affect image quality.

For best cleaning results, use a clean, damp, non-abrasive cloth with any commercially available non-ammonia glass cleaner. Bezels may not provide a complete watertight seal. Therefore, apply cleaning solution to the cloth rather than the surface of the touch screen. Wipe touch screen clean and avoid getting moisture beneath the bezels.

CAUTION: Do not apply excessive pressure to the touch screen display during handling. Doing so can crack the screen and damage the touch screen.

Uploading and Upgrading

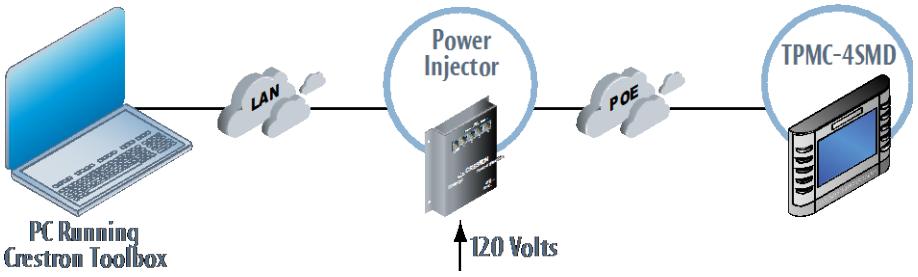
Crestron recommends using the latest programming software and that each device contains the latest firmware to take advantage of the most recently released features. However, before attempting to upload or upgrade it is necessary to establish communication. Once communication has been established, files (for example, programs, projects or firmware) can be transferred to the control system (or device). Finally, program checks can be performed (such as changing the device ID or creating an IP table) to ensure proper functioning.

NOTE: Crestron software and any files on the Web site are for authorized Crestron dealers and Crestron Service Providers (CSPs) only. New users must register to obtain access to certain areas of the site (including the FTP site).

Establishing Communication

Use Crestron Toolbox for communicating with the TPMC-4SMD; refer to the Crestron Toolbox help file for details. There is a single method of communication: TCP/IP communication.

Ethernet Communication



The TPMC-4SMD connects to PC via Ethernet:

1. Use the Device Discovery Tool (click the icon) in Crestron Toolbox to detect all Ethernet devices on the network and their IP configuration. The tool is available in Toolbox version 1.15.143 or later.
2. Click on the TPMC-4SMD to display information about the device.

Programs, Projects and Firmware

Program, project or firmware files may be distributed from programmers to installers or from Crestron to dealers. Firmware upgrades are available from the Crestron Web site as new features are developed after product releases. One has the option to upload programs and projects via the programming software or to upload and upgrade via the Crestron Toolbox. For details on uploading and upgrading, refer to the Crestron Studio help file, SIMPL Windows help file, VT Pro-e help file or the Crestron Toolbox help file.

Crestron Studio / SIMPL Windows

If a Crestron Studio (or SIMPL Windows) program is provided, it can be uploaded to the control system using Crestron Studio (or SIMPL Windows) or Crestron Toolbox.

Crestron Studio / VT Pro-e

Upload the Crestron Studio (or VT Pro-e) file to the touch screen using Crestron Studio (or VT Pro-e) or Crestron Toolbox.

Firmware

Check the Crestron Web site to find the latest firmware. (New users must register to obtain access to certain areas of the site, including the FTP site.)

Upgrade TPMC-4SMD firmware via Crestron Toolbox.

1. Establish communication with the TPMC-4SMD and display the "System Info" window.
2. Select **Functions | Firmware…** to upgrade the TPMC-4SMD firmware.

Program Checks

Using Crestron Toolbox, display the "System Info window (**Tools | System Info**) and select the **Functions** menu to display actions that can be performed on the TPMC-4SMD.

Be sure to use Crestron Toolbox to create the TPMC-4SMD IP table.

1. Select **Functions | IP Table Setup**.
2. Add, modify or delete entries in the IP table. The TPMC-4SMD can have only one IP table entry.
3. A defined IP table can be saved to a file or sent to the device.

Edit the control system's IP table to include an entry for the TPMC-4SMD. The entry should list the TPMC-4SMD's IP ID (specified on the TPMC-4SMD's IP table) and the internal gateway IP address 127.0.0.1.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

TPMC-4SMD Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Device does not function.	Device is not communicating with the network.	Use Crestron Toolbox to poll the network. Verify network connection to the device.
	Device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.
	Device is not receiving sufficient power.	Use the Crestron Power Calculator to help calculate how much power is needed for the system.
TPMC-4SMD is not responding.	No IP address configured/obtained.	Use the internal setup menu (refer to "Ethernet Setup" on page 12) or Crestron Toolbox to create/verify Ethernet settings.
	Invalid control system IP address / IP ID set up on the TPMC-4SMD	The IP address (or host name) for the control system is invalid or the IP ID does not match the one defined in the SIMPL program. Refer to "Ethernet Setup" on page 12 to define IP addresses.
TPMC-4SMD boots up in setup screens every time.	Invalid VT Pro-e project or no VT Pro-e project is loaded.	Load/reload VT Pro-e project using the Toolbox.

Reference Documents

All documents mentioned in this guide are available at www.crestron.com/manuals.

List of Related Reference Documents

DOCUMENT TITLE
Crestron e-Control Reference Guide

Further Inquiries

To locate specific information or resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or refer to the listing of Crestron worldwide offices on the Crestron Web site (www.crestron.com/offices) for assistance within a particular geographic region.

To post a question about Crestron products, log onto the Online Help section of the Crestron Web site (www.crestron.com/onlinehelp). First-time users must establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the TPMC-4SMD, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

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change without notice.